

Listing of Claims:

1-47 (Canceled)

48. (New) A method for determining properties of encapsulated electrophoretic display media, comprising the steps of:

- (a) providing encapsulated electrophoretic display media comprising a plurality of cavities dispersed in a polymeric matrix, wherein at least one of said plurality of cavities contains an electrophoretic contrast media phase that includes at least one particle and a suspending fluid;
- (b) providing a first electrode and a second electrode, said first and second electrodes adjacent to said plurality of cavities;
- (c) applying a first electrical signal to said first electrode;
- (d) applying a second electrical signal to said second electrode; and
- (e) measuring a first electrical characteristic of said encapsulated electrophoretic display media, said first electrical characteristic generated in response to said applied first and second electrical signals.

49. (New) The method of claim 48, wherein step (e) comprises measuring a first electrical characteristic represented by a time constant.

50. (New) The method of claim 48, wherein step (e) comprises measuring a first electrical characteristic represented by a current.

51. (New) The method of claim 48, wherein step (e) comprises measuring a first electrical characteristic represented by voltage.

52. (New) The method of claim 48, wherein step (e) comprises measuring a first electrical characteristic represented by capacitance.

53. (New) The method of claim 48 further comprising deducing a second electrical characteristic of said encapsulated electrophoretic display media based on said measured first electrical characteristic.

54. (New) The method of claim 53 wherein said second electrical characteristic is resistivity of said encapsulated electrophoretic display media.

55. (New) The method of claim 54 further comprising measuring a first environmental factor of said encapsulated electrophoretic display media using an external sensor.

56. (New) The method of claim 55 further comprising determining a second environmental factor of said encapsulated electrophoretic display media based on said resistivity and said measured first environmental factor.

57. (New) The method of claim 56 wherein one of said first and second environmental factors is temperature and the other is humidity.

58. (New) A method for determining properties of encapsulated electrophoretic display media, comprising the steps of:

- (a) providing encapsulated electrophoretic display media comprising a plurality of pixels, each pixel comprising at least one cavity dispersed in a polymeric matrix, wherein said at least one cavity contains an electrophoretic contrast media phase that includes at least one particle and a suspending fluid;
- (b) providing a first electrode, said first electrode common and adjacent to each of said plurality of pixels;
- (c) providing at least one measurement pixel of said plurality of pixels, said at least one measurement pixel having a measurement electrode adjacent thereto;
- (d) applying a first electrical signal to said first electrode;
- (e) applying a second electrical signal to said measurement electrode; and
- (f) measuring a first electrical characteristic of said at least one measuring pixel, said first electrical characteristic generated in response to said applied first and second electrical signals.

59. (New) The method of claim 58, wherein step (f) comprises measuring a first electrical characteristic represented by a time constant.

60. (New) The method of claim 58, wherein step (f) comprises measuring a first electrical characteristic represented by a current.
61. (New) The method of claim 58, wherein step (f) comprises measuring a first electrical characteristic represented by voltage.
62. (New) The method of claim 58, wherein step (f) comprises measuring a first electrical characteristic represented by capacitance.
63. (New) The method of claim 58 further comprising calculating an aggregate first electrical characteristic of said encapsulated electrophoretic display media using measured first electrical characteristics of each of said at least one measurement pixel.
64. (New) The method of claim 58 further comprising deducing a second electrical characteristic of said at least one measurement pixel based on said measured first electrical characteristic.
65. (New) The method of claim 64, wherein said second electrical characteristic is resistivity of said at least one measurement pixel.
66. (New) The method of claim 64 further comprising calculating an aggregate second electrical characteristic of said encapsulated electrophoretic display media using deduced second electrical characteristics of each of said at least one measurement pixel.
67. (New) The method of claim 64 further comprising measuring a first environmental factor of said encapsulated electrophoretic display media using an external sensor.
68. (New) The method of claim 67 further comprising determining a second environmental factor of said encapsulated electrophoretic display media based on said resistivity and said measured first environmental factor.
69. (New) The method of claim 68 wherein one of said first and second environmental factors is temperature, and the other is humidity.

70. (New) A method for detecting a change in an electrical characteristic of encapsulated electrophoretic display media, comprising the steps of:

- (a) providing encapsulated electrophoretic display media comprising a plurality of pixels, each pixel comprising at least one cavity dispersed in a polymeric matrix, wherein said at least one cavity contains an electrophoretic contrast media phase that includes at least one particle and a suspending fluid;
- (b) providing a first electrode, said first electrode common and adjacent to each of said plurality of pixels;
- (c) providing at least one measurement pixel of said plurality of pixels, said at least one measurement pixel having a measurement electrode adjacent thereto;
- (d) applying a first electrical signal to said first electrode;
- (e) applying a second electrical signal to said measurement electrode;
- (f) measuring a first electrical characteristic of said at least one measuring pixel, thereby obtaining a first value of said electrical characteristic; said first electrical characteristic generated in response to said applied first and second electrical signals;
- (g) repeating steps (d) – (f), thereby obtaining a second value of said electrical characteristic; and
- (h) comparing said first and second values of said electrical characteristic thereby detecting a change therein.

71. (New) An apparatus for determining properties of encapsulated electrophoretic display media, said encapsulated electrophoretic display media comprising a plurality of cavities dispersed in a polymeric matrix, wherein at least one of said plurality of cavities contains an electrophoretic contrast media phase that includes at least one particle and a suspending fluid, and two electrodes adjacent to said plurality of cavities; said apparatus comprising:

- (a) a signal generator for applying electrical signals to said two electrodes; and
- (b) a detection circuit for measuring a first electrical characteristic of said encapsulated electrophoretic display media generated in response to said electrical signals.

72. (New) The apparatus of claim 71, further comprising a processor for deducing a second electrical characteristic of said encapsulated electrophoretic display media based on said measured first electrical characteristic.
73. (New) The apparatus of claim 72 wherein said second electrical characteristic is resistivity of said encapsulated electrophoretic display media.
74. (New) The apparatus of claim 73 further comprising measuring a first environmental factor of said encapsulated electrophoretic display media using an external sensor.
75. (New) The apparatus of claim 74 further comprising determining a second environmental factor of said encapsulated electrophoretic display media based on said resistivity and said measured first environmental factor.
76. (New) The apparatus of claim 75 wherein one of said first and second environmental factors is temperature, and other is humidity.
77. (New) The apparatus of claim 71 wherein said detection circuit comprises a capacitance bridge.
78. (New) The apparatus of claim 71 wherein said detection circuit comprises a circuit capable of measuring time constants.
79. (New) The apparatus of claim 71 wherein said detection circuit comprises a circuit capable of measuring frequency.
80. (New) The apparatus of claim 71 wherein said detection circuit comprises a circuit capable of measuring voltage.
81. (New) An electrophoretic display comprising encapsulated electrophoretic display media comprising a plurality of pixels, each pixel comprising at least one cavity dispersed in a polymeric matrix, wherein said at least one cavity contains an electrophoretic contrast media

phase that includes at least one particle and a suspending fluid, and capable of determining properties of individual pixels, said electrophoretic display comprising:

- (a) a first electrode, said first electrode common and adjacent to each of said plurality of pixels;
- (b) at least one measurement pixel of said plurality of pixels, said at least one measurement pixel having a measurement electrode adjacent thereto;
- (c) a signal generator for applying electrical signals to said first electrode and said measurement electrode; and
- (d) a detection circuit for measuring a first electrical characteristic of said at least one measurement pixel, said first electrical characteristic generated in response to said applied electrical signals.

82. (New) The electrophoretic display of claim 81 further comprising a processor for deducing a second electrical characteristic of said at least one measurement pixel based on said measured first electrical characteristic.

83. (New) The electrophoretic display of claim 82 wherein said second electrical characteristic comprises resistivity of said at least one measurement pixel.

84. (New) The electrophoretic display of claim 83 further comprising measuring a first environmental factor of said encapsulated electrophoretic display media using an external sensor.

85. (New) The electrophoretic display of claim 84 further comprising determining a second environmental factor of said encapsulated electrophoretic display media based on said resistivity and said measured first environmental factor.

86. (New) The electrophoretic display of claim 85 wherein one of said first and second environmental factors is temperature, and the other is humidity.

87. (New) The electrophoretic display of claim 81 wherein said detection circuit comprises a capacitance bridge.

88. (New) The electrophoretic display of claim 81 wherein said detection circuit comprises a circuit capable of measuring time constants.

89. (New) The electrophoretic display of claim 81 wherein said detection circuit comprises a circuit capable of measuring frequency

90. (New) The electrophoretic display of claim 81 wherein said detection circuit comprises a circuit capable of measuring voltage.

91. (New) An input device, comprising

- (a) encapsulated electrophoretic display media, said encapsulated electrophoretic display media comprising a plurality of pixels, each pixel comprising at least one cavity dispersed in a polymeric matrix, wherein said at least one cavity contains an electrophoretic contrast media phase that includes at least one particle and a suspending fluid, each pixel having a pixel electrode adjacent thereto;
- (b) a first electrode, said first electrode common and adjacent to each of said plurality of pixels;
- (c) a signal generator for applying electrical signals to said first electrode and each of said pixel electrodes;
- (d) a detection circuit for measuring a first electrical characteristic of each of said plurality of pixels, said first electrical characteristic generated in response to said applied electrical signals;
- (e) a discriminator circuit for detecting a change in said first electrical characteristic of at least one pixel of said plurality of pixels; and
- (f) a response generator for generating a response to said change and identifying said at least one pixel.

92. (New) The input device of claim 91 wherein said first electrical characteristic is a voltage or capacitance.

Preliminary Amendment

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93. (New) The input device of claim 91, further comprising a processor for deducing a second electrical characteristic of said at least one pixel based on said measured first electrical characteristic.

94. (New) The input device of claim 93 wherein said second electrical characteristic is resistivity.